CLAIMS

We claim:

1. A burner assembly for burning a fuel gas from a gas source, comprising:

a burner pan with a fuel gas inlet aperture therein; and

a burner body having upper and lower portions, the lower portion of the burner body being sealably connected to the burner pan forming an interior gas distribution chamber therebetween, the interior gas distribution chamber positioned to receive a flow of fuel gas therein from the fuel gas inlet aperture, the upper portion of the burner body having a contoured surface with a plurality of peaks and valleys to form a plurality of simulated coal members, the upper portion of the burner body having a plurality of gas distribution apertures extending from the interior gas distribution chamber to the contoured surface, the plurality of gas distribution apertures being positioned to direct a flow of the fuel gas from the interior gas distribution chamber to the contoured surface for ignition, the burner body being constructed of a material that glows at selected color variations in the simulated coal members to simulate a burning and glowing coal ember bed in the base of a fire when the fuel gas is ignited adjacent to the contoured surface.

2. The burner assembly of claim 1 wherein the interior gas distribution chamber has a plurality of chamber portions to maintain a desired fuel gas pressure within the interior gas distribution chamber.

3. The burner assembly of claim 1 wherein the interior gas distribution chamber has a gas flow orifice member positioned between a first chamber portion and a second chamber portion to selectively control the flow of the fuel gas from the first chamber portion or to the second chamber portion.

4. The burner assembly of claim 1 wherein the burner pan includes a base spaced apart from the burner body and a plurality of distribution fences projecting from the base, the lower portion of the burner body has a plurality of channels that receive a portion of the distribution fences, the distribution fences dividing the interior gas distribution chamber into separate chamber portions for distribution of the fuel gas to selected ones of the gas distribution apertures.

5. The burner assembly of claim 4 wherein the fences sealably engage the burner body in the channels.

6. The burner assembly of claim 1 wherein the plurality of gas distribution apertures have open upper ends positioned in a plurality of different planes so the open upper ends are not co-planar thereby controlling the distribution of the fuel gas at the contoured surface of the upper portion of the burner body.

7. The burner assembly of claim 1 wherein a selected group of the plurality of gas distribution apertures are concentrated relative to each other to provide a selected flame shape when the fuel gas flowing through the concentrated group of gas distribution apertures is ignited adjacent to the upper portion of the burner body.

8. The burner assembly of claim 1 wherein the burner body includes a combustion air hole extending therethrough, the combustion air hole being out of fluid communication with the interior gas distribution chamber.

9. The burner assembly of claim 1 wherein the plurality of gas apertures have substantially the same height.

10. The burner assembly of claim 1 wherein the gas distribution apertures have a plurality of diameters selectively sized to control a flow of the fuel gas therethrough.

11. The burner assembly of claim 1, further comprising a gasket sandwiched between the burner pan and the burner body.

12. The burner assembly of claim 1 wherein the contoured surface provides a non-uniform surface that provides simulated coal portions of different sizes and heights.

13. The burner assembly of claim 1 wherein the upper portion of the burner body has a simulated-log-support surface and a plurality of guide members positioned to removably receive simulated logs thereon.

14. The burner assembly of claim 1 wherein the burner body is constructed of a ceramic-based material.

15. The burner assembly of claim 1 wherein the burner body is constructed of compressed vermiculite.

16 A burner assembly for burning a fuel gas from a gas source, the burner assembly being connectable to a burner pan with a fuel gas inlet aperture therein, comprising:

a burner body having upper and lower portions, the burner body being removably connectable to the burner pan to form an interior gas distribution chamber therebetween and positioned in fluid communication with the fuel gas inlet aperture to receive a flow of fuel gas from the gas source, the upper portion of the burner body having a contoured surface with a plurality of peaks and valleys to form a plurality of simulated coal members, the burner body having a plurality of gas distribution apertures extending therethrough from the lower portion to the contoured surface of the upper portion, the plurality of gas distribution apertures being positioned to direct a flow of the fuel gas to the contoured surface of the upper portion of the burner body for ignition, the burner body being constructed of a material that glows at selected color variations in the simulated coal members to simulate a burning and glowing coal ember bed in the base of a fire when the fuel gas is ignited adjacent to the contoured surface.

17. The burner assembly of claim 16 wherein the lower portion of the burner body has a plurality of channels formed therein and sized to removably receive selected portions of the burner pan.

18. The burner assembly of claim 17, further comprising a plurality of seals in the channels and positioned to sealably engage the selected portions of the burner pan.

19. The burner assembly of claim 16 wherein the plurality of gas distribution apertures have open upper ends positioned in a plurality of different planes, so the open upper ends are not co-planar thereby controlling the distribution of the fuel gas at the contoured surface of the upper portion of the burner body.

20. The burner assembly of claim 16 wherein a selected group of the plurality of gas distribution apertures are concentrated relative to each other to provide a selected flame shape when the fuel gas flowing through the concentrated group of gas distribution apertures is ignited adjacent to the upper portion of the burner body.

21. The burner assembly of claim 16 wherein the plurality of gas apertures have substantially the same height.

22. The burner assembly of claim 16 wherein the gas distribution apertures have a plurality of diameters selectively sized to control a flow of the fuel gas therethrough.

23. The burner assembly of claim 16, further comprising a gasket sandwiched between the burner pan and the burner body.

24. The burner assembly of claim 16 wherein the burner body has a simulated-log-support surface and a plurality of guide members positioned to removably receive simulated logs thereon.

25. The burner assembly of claim 16 wherein the burner body is constructed of a ceramic-based material.

26. A burner assembly for burning a fuel gas from a gas source, the burner assembly being connectable to a burner pan with a gas inlet aperture therein, the burner pan having a base and a projection extending away from the base, comprising:

a burner body having upper and lower portions, the lower portion of the burner body being releasably connectable to the burner pan in a position to form a gas distribution chamber therebetween in fluid communication with the gas inlet aperture, the upper portion of the burner body having a contoured surface with a plurality of peaks and valleys, the burner body having a plurality of gas distribution apertures extending from the lower portion to the contoured surface, the plurality of gas distribution apertures being positioned to direct a flow of the fuel gas to the contoured upper surface for ignition, the lower portion of the burner body having an elongated channel therein sized to receive the projection therein when the burner pan is connected to the burner body, the channel being positioned to define at least a portion of the gas distribution chamber for distribution of the fuel gas to the gas distribution apertures.

27. The burner assembly of claim 26 wherein the contoured surface is shaped to form a plurality of simulated coal members in a simulated ember bed.

28. The burner assembly of claim 27 wherein the burner body is constructed of a material that glows at selected color variations in the simulated coal members to simulate a burning and glowing coal ember bed in the base of a fire when the fuel gas is ignited adjacent to the contoured surface.

29. The burner assembly of claim 26 wherein the contoured surface is shaped to form a plurality of simulated bricks.

30. The burner assembly of claim 26 wherein the plurality of gas apertures have open upper ends positioned in a plurality of different planes, so the open upper ends are not co-planar.

31. A burner assembly for burning a fuel gas from a gas source, comprising:

a burner pan with a base having a fuel gas inlet aperture therein, and a distribution fence attached to the base of the burner pan, the distribution fence projecting away from the base; and

a burner body having upper and lower portions, the burner body being connected to the burner pan integrally forming an interior gas distribution chamber therebetween, the interior gas distribution chamber having a plurality of chamber portions being positioned to receive a flow of the fuel gas therein from at least one fuel gas inlet aperture, the upper portion of the burner body having a contoured surface with a plurality of peaks and valleys the burner body having a plurality of gas distribution apertures extending therethrough from the lower portion to the contoured surface of the upper portion, the plurality of gas distribution apertures being positioned to direct a flow of the fuel gas to the contoured surface of the upper portion of the burner body for ignition, the burner body being constructed of a non-metallic material that glows at selected color variations when the fuel gas is ignited adjacent to the contoured surface.

32. The burner assembly of claim 31 wherein the peaks and valleys in the contoured surface is shaped to form a plurality of simulated coal members.

33. The burner assembly of claim 31 wherein the lower portion of the burner body has a channel formed therein and at least a portion the distribution fence of the burner pan is positioned within the channel.

34. The burner assembly of claim 32 further comprising a seal in the channel of the burner body positioned to sealably engage the distribution fence of the burner pan.

35 The burner assembly of claim 31 wherein the height of the channel is less than the height of the distribution fence to create the interior gas distribution chamber.

36. The burner assembly of claim 31 wherein the burner pan has a plurality of distribution fences positioned to form separate portions of the gas distribution chamber.

37. The burner assembly of claim 35 wherein the fuel gas inlet aperture is a first fuel gas inlet aperture, the base of the burner pan having a second fuel gas inlet aperture, the plurality of distribution fences being positioned to define first and second portions of the gas distribution chamber out of fluid communication with each other wherein the first portion communicates with the first gas inlet aperture and the second portion communicates with the second gas inlet aperture.

38. The burner assembly of claim 31 wherein the distribution fence is positioned to divide the gas distribution chamber into a first portion and a second portion, the distribution fence having a passage therein to provide for fluid communication between the first and second portions of the gas distribution chamber.

39. The burner assembly of claim 31 further comprising the burner pan with a perimeter fence to define the gas distribution chamber and a plurality of interior fences to divide the gas distribution chamber.

40. A burner assembly for burning a fuel gas from a gas source, the burner assembly being connectable to a burner pan with a fuel gas inlet aperture therein, coupleable to the gas source, comprising:

a non-metallic burner body having upper and lower portions, the burner body being removably connectable to the burner pan to form an interior gas distribution chamber, the interior gas distribution chamber having a first chamber portion positioned to receive a flow of the fuel gas therein from the fuel gas inlet aperture and having a second chamber portion in fluid connection with the first chamber portion, a gas flow orifice member being positioned between the first and second chamber portions to selectively control the flow of

the fuel gas from the first chamber portion or to the second chamber portion, the upper portion of the burner body having a contoured surface with a plurality of peaks and valleys to form a plurality of simulated coal members, and the contoured surface forming a simulated-log-support surface and a plurality of guide members positioned to removably receive the simulated log members, the upper portion of the burner body having a plurality of gas distribution apertures extending from the interior gas distribution chamber to the contoured surface, a first portion of the plurality of gas apertures terminating at the contoured surface in the valleys, and a second portion of the plurality of gas distribution apertures terminating at the contoured surface at the peaks with the plurality of gas distribution apertures having different heights, the plurality of gas distribution apertures being positioned to direct a flow of the fuel gas to the contoured surface of the upper portion of the burner body for ignition, the non-metallic burner body being constructed of a material that glows at selected color variations in the simulated coal members to simulate a burning and glowing coal ember bed in the base of a fire when the fuel gas is ignited adjacent to the contoured surface.

41. The burner assembly of claim 39 wherein the burner body is constructed of a ceramic-based material.

42. The burner assembly of claim 39 wherein the burner body is constructed of compressed vermiculite.

43. The burner assembly of claim 39 wherein the burner body includes a combustion air hole extending therethrough, the combustion air hole positioned to be out of fluid communication with the gas distribution chamber when the burner pan is connected to the burner body.

44. The burner assembly of claim 39 wherein the gas distribution apertures have a plurality of different diameters selectively sized to control a flow of the fuel gas therethrough.

45. The burner assembly of claim 39 wherein the first chamber portion is larger than the second chamber portion and a greater number of gas distribution apertures

communicate with the first chamber portion then the number of gas distribution apertures in direct fluid communication with the second chamber portion.